

Serial No.: 10/604,465
Confirmation No.: 3748
Applicant: SABELSTRÖM, Mats et al.
Atty. Ref.: 00173.0033.PCUS00

REMARKS:

REMARKS REGARDING CLAIMS AMENDMENTS:

Claim 7 was rejected under 35 U.S.C. §112, second paragraph, because the claim included "the engine" as a limitation lacking sufficient antecedent basis. The basis for rejection was eliminated by amendment of claim 7.

Claims 1 - 14 are currently pending in the present application.

Serial No.: 10/604,465
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IN RESPONSE TO THE OFFICE ACTION:

REJECTION UNDER 35 U.S.C. § 112, SECOND PARAGRAPH:

Claim 7 was rejected under 35 U.S.C. §112, second paragraph, because the claim included “the engine” as a limitation lacking sufficient antecedent basis. Claim 7 was amended to recite, “wherein the compressor is mechanically connected to” a diesel engine. Support for the amendment exists in the published version (US 2004/0103644 A1) of the present application in paragraphs [0005]; [0021] and [0026].

Applicants submit that the amendment clarifies claim 7, removing the basis for rejection under 35 U.S.C. §112, second paragraph and thus ask that the Examiner reconsider and withdraw the rejection of the claim and indicate its allowance in the next paper from the Office.

REJECTIONS UNDER 35 U.S.C. § 103:

The Office Action rejected Claims 1-4 and 6-14 under 35 U.S.C. §103(a) as being unpatentable over Emerson *et al.* (US 5151022) in view of Leins (US 4122673). Further, Claim 5 was rejected under 35 U.S.C. §103(a) as being unpatentable over Emerson *et al.* (US 5151022) in view of Leins (US 4122673) and further in view of Fielding (US 5927084).

The following tabular summary compares claims 1, 8 and 10 of the present invention with teachings of the references of Emerson *et al.* and Leins. Evidence shows that the combined references teach away from the present invention. Applicants request reconsideration and withdrawal of the rejection.

Comparison of the present invention with teachings of Emerson *et al.* and Leins

Claims Requirements of the Present Invention	Emerson <i>et al.</i> U.S. 5,151,022 Leins U.S. 4,122,673
Claim 1 recites “An arrangement for incorporating a <u>catalyst directly into a compressor</u> - - -, said oxidation catalyst being <u>integrally arranged within the compressor</u> thereby establishing a combined compressor and catalytic device.”	By admission of the Office Action, Emerson <i>et al.</i> fails to teach an “oxidation catalyst integrally arranged within the compressor.” According to Leins (Fig. 1 and Col. 3, lines 60 - 68), a compressor (V) and turbine (WT) are separate components of a turbo-supercharger (T). Catalyst blocks, residing inside the turbine (WT) cannot be construed to be within the compressor (V).

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Summary Table (contd.)

Claims Requirements of the Present Invention	Emerson <i>et al.</i> U.S. 5,151,022 Leins U.S. 4,122,673
The method of claim 8 requires, "conducting the purification of compressed air using a combined compressor and catalyst device in which the oxidation catalyst is integrally arranged within the compressor."	The combined references of Emerson <i>et al</i> and Leins fail to teach purification of compressed air using a catalyst device <u>integrally arranged within the compressor</u> .
Claim 10 requires, "a vehicle having a receiving space for a catalyzing air compressor - - - having a cylinder-defining body located in said receiving space, said cylinder-defining body - - - having an oxidation catalytic treatment stage compartment defined within said body."	The combined references of Emerson <i>et al</i> and Leins fail to teach a "receiving space for a catalyzing air compressor" or "a cylinder-defining body located in the receiving space," or "an oxidation catalytic treatment stage compartment defined within the (cylinder defining) body."

Subsequent remarks address specific parts of the Office Action (included herein for convenient reference) providing comments that amplify those in the tabular summary, above.

With respect to claims 1, 8, and 10 the Office Action stated:

"as shown in Figure 1, Emerson *et al.* disclose an arrangement for establishing a vehicular transported compressor that incorporates a catalyst near the compressor and a method for providing a compressed air system in said vehicle, the arrangement comprising:

a compressor (22) for generating compressed air and a connection for conveying compressed air generated by the compressor to a remaining portion of a compressed air system of a vehicle, and
 an oxidation catalyst (12) adapted for purifying generated compressed air.

Emerson *et al.*, however, fail to disclose that the oxidation catalyst is integrally arranged within the compressor thereby establishing a combined compressor and catalytic device.

As shown in Figure 2, Leins teaches an engine with catalytic reaction in a supercharger turbine case, comprising catalyst blocks (12) located at the turbine inlet (2a) and the turbine outlet (2b) to eliminate harmful emissions in the exhaust gas. By locating the oxidation catalyst (12) at the compressor inlet and outlet as suggested by Leins, Emerson *et al.* are able to maintain the catalyst at a desired operating temperature range by making use of the hot temperature air within the compressor. It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have placed the oxidation catalyst of Emerson *et al.* within the compressor as suggested by Leins, since the application thereof would have further purified the compressed air.

Since the Office Action admits failure of Emerson *et al* to teach a key aspect of claims of the present invention, which requires arrangement of an oxidation catalyst integrally within a compressor, rejection of claims 1, 8 and 10 relies upon the reference of Leins. However, since

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the turbine inlet (2a) and the turbine outlet (2b) are not part of the compressor of Leins, this reference also teaches away from placement of an oxidation catalyst within the compressor.

Several sections of the descriptive portion of Leins provide correct interpretation of Figures 1 and 2 of the reference (see e.g. Col. 2, lines 36 - 37; Col. 3, lines 17 - 21; Col. 4, lines 28 - 33 and lines 55 - 68; Col. 5, lines 26 - 33 and particularly Col. 3, lines 60 - 68). At each point, the specified portions of the reference teach the presence of catalyst blocks in the turbine (WT) not the compressor (V). Although the turbo-supercharger (T) of Leins appears, in Figure 2, as a single unit (T), it comprises a compressor (V) separated from a turbine (WT) by a bearing housing (16) as described at Col. 4, lines 28 - 33. Evidence of separation of the compressor (V) from the turbine (WT) is given by Figure 1 of Leins. Further clarification of this separation of components is given in the description of Figure 1 at Column 3, lines 60 - 68 of the reference.

After teaching that the compressor (V) is separate from the turbine (WT), Leins teaches "catalytic materials (12) that are combined in the turbine," (Col. 2, lines 36 - 37). Confirming evidence that the catalyst resides in the turbine (WT) is found at Col. 4, lines 55 - 68 of the reference. While it is known that a rotary turbine may be connected to drive a compressor, of the type used by Leins, this neither makes the turbine part of the compressor nor places catalytic material inside the compressor.

As explained above, the combined references of Emerson *et al* and Leins fail to mention relevant concepts or teach structure that incorporates an oxidation catalyst "integrally arranged within the compressor," as recited in claims 1 and 8. The modified arrangement of Emerson *et al* fails to teach the "oxidation catalyst treatment stage compartment defined within the body" of a catalyzing air compressor, as recited in claim 10 of the present invention. Claims of the present invention are not obvious over the applied references, which fail to teach all claims limitations as required for rejection for obviousness. Applicants believe that claim 1, claim 8 and claim 10 should be allowed.

Original claims 1, 8 and 10 are believed to be allowable. Dependent claims 2 - 4 and 7, as amended, add limitations to claim 1 and should likewise be allowed; thereby placing claims 5 and 6, which depend from claim 4, in condition for allowance. Claims depending from allowable claims 8 and 10 should likewise be allowed as further discussed below.

Serial No.: 10/604,465
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Regarding claim 2, the modified arrangement of Emerson *et al.* teaches placement of the oxidation catalyst in a space defined in an outlet (2b) of the turbine. Leins fails to place the catalyst within the compressor, but teaches that the compressor is external to the turbine.

Regarding claim 3, the modified arrangement of Emerson *et al.*, possibly suggests catalyst units at turbine inlet (2a) and turbine outlet (2b), but not inside the compressor (V), which is separated from the turbine (WT) by a bearing housing (16).

Claims 4 and 6 include limitations of claim 1 not taught by the modified arrangement of Emerson *et al.*, as discussed with reference to previous claims. Claim 1 is patentable indicating that dependent claims 4 and 6 should likewise be patentable.

Amended claim 7 as well as claims 2 - 4 and 6 include limitations of claim 1. For reasons given previously, claim 1 is patentable over the combined references of Emerson *et al* and Leins. Claims having dependency from claim 1 should likewise be patentable.

Claim 9 includes limitations of claim 8 not taught by the modified arrangement of Emerson *et al.*, as discussed above. Evidence based on the combined references shows that Claim 8 is patentable. Since claim 9 depends from claim 8, it should likewise be patentable.

Previous discussion provides evidence that the modified arrangement of Emerson *et al.* fails to teach limitations of claim 10. Claims 11 and 13 depend from claim 10 while claim 12 depends from claim 11. Since claim 10 has been shown to be patentable over the references, and dependent claims include the limitations of claims from which they depend, claims 11 - 13 should be patentable. Based on dependency from patentable claim 13, claim 14 should likewise be patentable.

Adding the reference of Fielding to the modified arrangement of Emerson *et al.* is ineffective as a basis for rejection of claim 5 of the present invention for obviousness because evidence has been provided previously to show that claim 4 of the present invention, from which claim 5 depends, is unobvious over the combined references of Emerson *et al* and Leins.

In consideration of the previous discussion, Applicants submit that rejection of claims 1 - 14 under 35 U.S.C. §103(a) has been overcome and should be withdrawn.

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PRIOR ART:

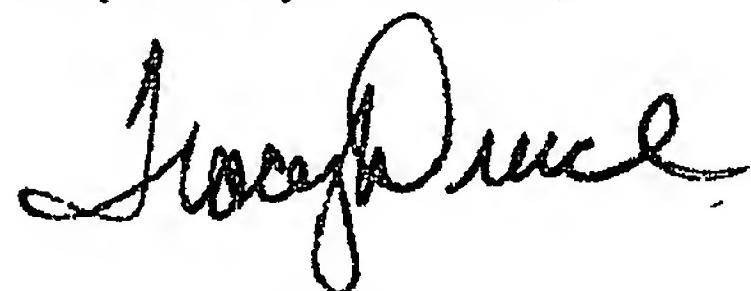
The prior art made of record but not relied upon has been reviewed but does not appear to be pertinent to claims of the present invention that require an oxidation catalyst integrally arranged within a compressor.

Applicants have made an earnest attempt to respond to all the points included in the Office Action. Evidence presented herein confirms that the present invention is not obvious over references cited by the Examiner. Consequently, request is respectfully made for reconsideration of the application and notification of allowance of claim 7 as amended and original claims 1 - 6 and 8 - 14 in the next paper from the Office.

The undersigned representative requests any extension of time that may be deemed necessary to further the prosecution of this application and authorizes the Commissioner to charge any additional fees under 37 C.F.R. 1.16 or 1.17 that may be required, or credit any overpayment, to Deposit Account No. 14-1437, referencing Order No. 00173.0033.PCUS00.

In order to facilitate the resolution of any issues or questions presented by this paper, the Examiner should directly contact the undersigned by phone to further the discussion.

Respectfully submitted,



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